

WHAT IS CLAIMED IS:

1. A process for producing a multipurpose, multi-functional apple base which comprises:
 - 5 (a) washing and sanitizing apples to inactivate residual microorganisms therein;
 - (b) cutting the apples into suitable sized pieces;
 - (c) steaming the apple pieces to inactivate enzymes, to gelatinize the protoplasts, to break down the intercellular protopectin and to inactivate microorganisms;
 - 10 (d) mascerating and screening the steamed apple pieces to produce a mince and to eliminate unwanted skin and core components;
 - (e) comminuting the apple mince to form a mash with predominantly intact single cells;
 - 15 (f) homogenizing a portion of the mash to fracture the intact, single cells for the production of protoplasmic microparticles, solubilized pectin and size-specific cell wall fragments; and
 - (g) adding 5 to 80% weight mash to the fractured cell homogenate of step (f) to produce the multipurpose, multi-functional apple base.
- 20 2. A process as claimed in claim 1 wherein the washed and sanitized apple pieces are steamed at a temperature between 100 and 110°C to gelatinize the protoplasts, to inactivate the enzymes and to solubilize the protopectin in the middle lamellae to water-dispersible pectin.
- 25 3. A process as claimed in claim 1 wherein the steamed apple pieces are subjected to impaction in a finisher/pulper to produce an apple mince with cellular aggregates and without core, seed and skin components which are removed as waste.
- 30 4. A process as claimed in claim 1 wherein the apple mince is passed through a comminutor with specific screens to produce an apple mash with a predominance of intact single cells by disjoining the aggregated cells upon mechanical impaction,
- 35 5. A process as claimed in claim 1 wherein the apple mash is subject to homogenization at a pressure between 1000 and 5000 psig to bring about the

fracture of the intact, single cells to produce a slurry with protoplasmic microparticles, size-specific cell wall fragments and solubilized pectin.

6. A process as claimed in claim 1 wherein a measured amount of apple mash
5 (5 to 80% weight) is added to the homogenized slurry to produce creaminess, viscosity increase, opacity and apple stability.

7. A process as claimed in claim 1 wherein gum stabilizers are added to
10 increase the viscosity of the apple base to enhance the stability.

8. A process as claimed in claim 1 wherein stabilizers selected from the group
consisting of pectin and guar gum are added to the mash.

9. A process as claimed in claim 1 wherein ascorbic acid is added to the apple
15 base to increase the vitamin C content and to keep polyphenolic compounds in a reduced state.

10. A process as claimed in claim 1 wherein 15 to 50% weight mash is added to
20 the fractured cell homogenate of step (f).

11. A process as claimed in claim 3 wherein the finisher/pulper has a screen
opening of 0.05 to 0.13 inches (1.5 to 3.35 mm).

12. A process as claimed in claim 4 wherein the comminutor has screen open-
25 ings between 0.033 and 0.093 inches (0.85 and 2.36 mm).

13. A process as claimed in claim 5 wherein the homogenization pressure is
between 2000 and 3500 psig.